

Smarter Building

Karl Renner asks how to make terraced houses work



clarke|renner
chartered architects

Introduction

Some of the Create Streets team recently met the architect Karl Renner thanks to his award-winning entry to the Mount Pleasant community design competition. We proceeded to have a fascinating conversation about the way in which land prices, building regulations and the current prevalent development model make it very hard to build finely-grained, high-density urbanism – the sort of place that, provably, most people value most. During our conversation, he mentioned an article he had written some years ago about how to make terraced homes work in the current regulatory and land price environment. It seemed worth re-printing. So here it is. It asks can back to back houses with a roof terrace work for families and for developers? It is certainly efficient (up to 50 per cent improved land use). And it would appear to work at least in some situations for developers. Since Karl published this article, Berkeley Group have delivered a similar model on their Kidbrooke Village. You can read about that [here](#).

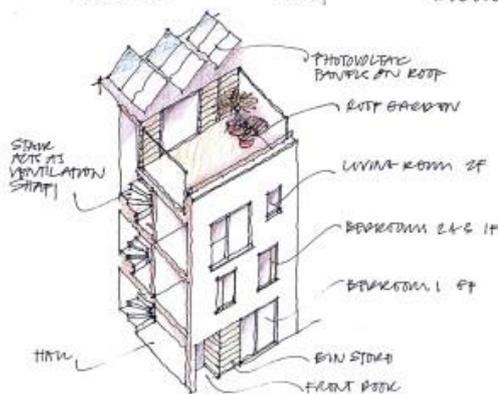
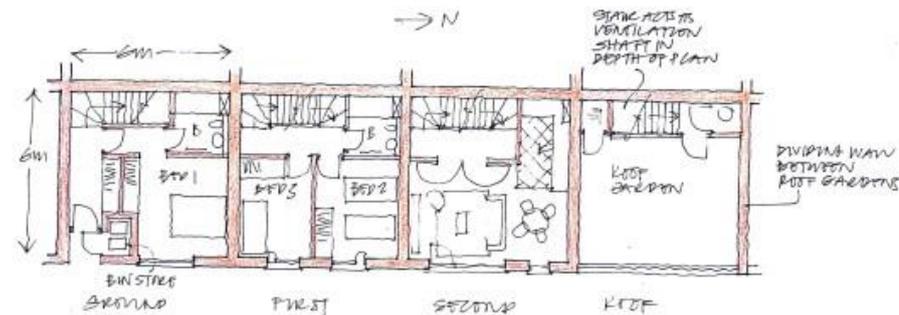
As Karl said at the time:

'We started thinking about new approaches because we were finding that the latest regs (sustainability, lifetime homes etc.) were pulling us further and further away from what planners like to call 'traditional' design. So we started afresh, asking what would a house be like if we followed what the regs generated?' You end up with flexibly laid-out, closely-packed units with a high-degree of off-site construction, roof top gardens, thick walls and windows

carefully positioned for maximum light but avoiding overlooking. And, while they aren't exactly conventional-looking, there's nothing so outrageously avant-garde to scare the punters. Actually, you find that there's much tiresome hoo-hah about supposedly 'radical' architecture (though the houses turn out to be surprisingly conventional), whereas I'd prefer to think originally but come up with something that could be really acceptable and nice to live in.'

Thank you Karl for letting us reprint it and I hope it is of interest.

Nicholas Boys Smith, Director Create Streets



- TYPE 1
- * LIVING ROOM AT 2F, ADJACENT TO ROOFTOP TERRACE/ROOF
 - * LIFT/TIME HEAVY COMPLIANT
 - * PARTY WALL CAN BE HEAVY MASONRY OR TIMBER CONSTRUCTION
 - * FACADE FINISH CAN BE BRICK, RENDER OR TIMBER AS APPROPRIATE
 - * SINGLE STAGE

CLARE KENNEDY MAY 2019

Here and now

There is much complaint that housing is too expensive but not spacious enough, that there is a huge shortage of housing because not enough is being built, and that even when it is, it isn't affordable.

For some years we have tended to concentrate on building the wrong type of housing, namely flats, which are most profitable to developers and have clearly been skewed towards the buy-to-let market. What is really wanted is 2/3 bed family houses, with useably-sized rooms and a bit of dedicated garden/play space for the kids.

There is huge pressure from regulations - though not yet from buyers - for "sustainability" (cheap yet sustainably-sourced materials, MMC, high levels of insulation, energy-efficient, economical layout, SUDS, the whole gamut). If anything, this results in the irony that "economy" is actually more expensive – we may be saving more than we can afford, as it were, by demanding such sophisticated standards that the goods are priced out of people's reach. It's as if all cars had to be BMWs by law.

In the current era of recession and credit restriction, developers are reluctant to build and buyers are unable to get credit to buy – but that doesn't mean that they don't still want or need houses.

Planning system

A hugely significant reason for the restriction in new developments is that the planning system has seized up. Even at the best of times it is difficult to achieve a planning permission, but lately it has become virtually impossible. Planners and neighbouring residents always insist that new developments should "fit in" (i.e. look like what's next door, brick, pitched roofs, chimneys) but new regulations generate a new vernacular, and this is proving very difficult for them to accept.

Typical housing layouts are inefficient in land-coverage. Road widths, parking spaces and access arrangements for larger refuse lorries, amounts of "amenity space" and (particularly) overlooking distances between habitable rooms all conspire to reduce densities. "Density" as a quality standard is in fact virtually meaningless.

We therefore wonder whether it is possible to generate new housing typologies which make truly economical use of the latest sustainable materials, approaches and techniques, while identifying efficient layouts which will increase densities (thereby using up less land and reducing build-cost and sale-price) by careful fusion of overlooking distances and car parking layouts.



Look again

A useful model might be a reassessment of the old "back-to-back" house. They attracted much revulsion, but this was provoked mainly because they were gerry-built, had rudimentary sewers and rapidly degenerated into slums. It was originally believed, in pre-Bazalgette days, that disease was spread via "noxious odours", so back-to-backs were condemned because they did

not have cross-ventilation which would allow disease to be blown away. Nowadays, we know this all to be erroneous, yet the revulsion stuck.

Regulations outlawing B2B were changed surprisingly recently, to allow development of single-aspect flats and even maisonettes. Indeed, Clarke Renner received planning permission recently for a development which included 32 such duplex units.

Variation

Assuming that the B2B principle is acceptable, the model is capable of much variation and “tuning” to the demands of many circumstances. The idea is that plot size can be much reduced by doing away with back gardens and consequent overlooking distances by putting the amenity space on the roof. This idea is familiar from those old LCC blocks which had drying-courts on the flat roofs, and it would also allow for the harvesting of rainwater from the roof plane, rather than it draining away into the garden.

The houses are shown as 3-bed units either with living room at second floor, connected to the roof terrace by stairs (which allows for the master bedroom to be at ground floor), or with the living room at ground floor and 3 bedrooms above (this is good for flood-plain situations). A second floor master bedroom is large enough to be divided, thus creating a small study, dressing room or nursery.

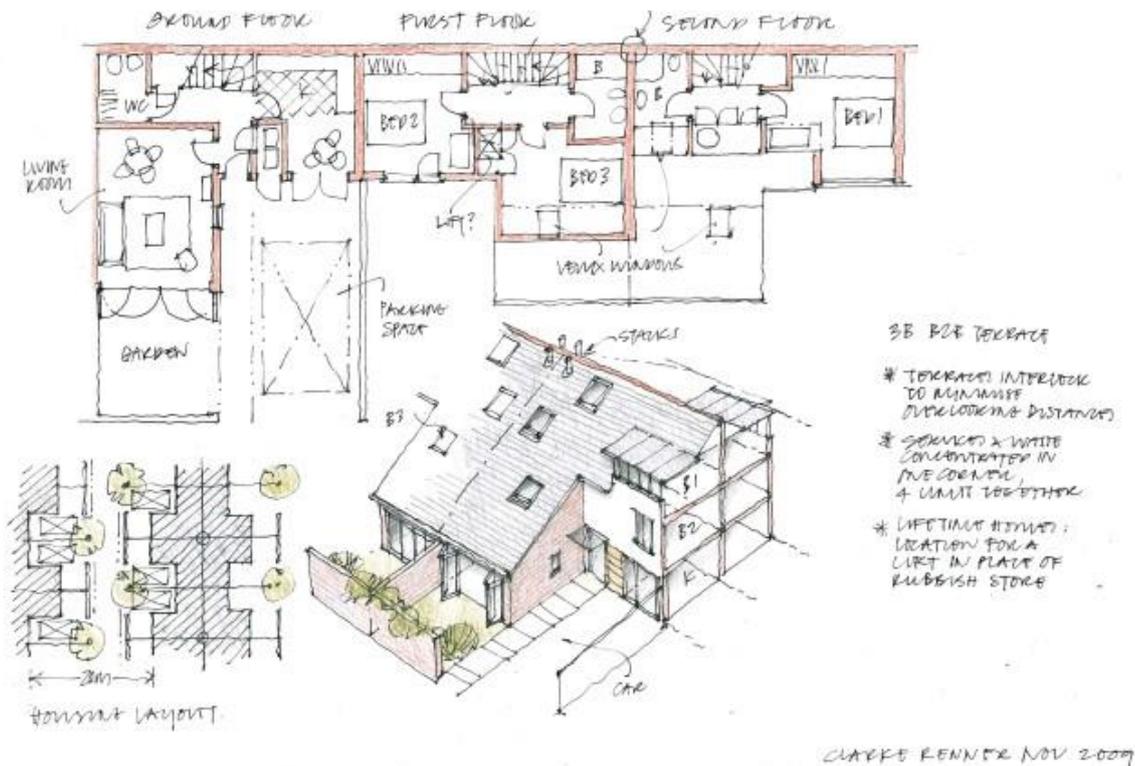
Internal organisation shows the stairs innermost which, with the top flight opening onto the roof terrace, would act as a ventilation chimney, as well as an acoustic buffer between houses. Glazing at terrace level would bring light down in the depth of the plan. Bathrooms and kitchen are all in one corner, allowing one service stack (or four together in a terrace situation), which would allow great economy in drainage connection.

Quite apart from the efficiencies of land-take, with three party walls and only one external wall the houses would be very economical in heat-loss terms. Party walls could be of masonry, concrete or indeed prefabricated using one of the solid-wood systems, Eurban or Storaenso for example. Intermediate floors could be of traditional timber construction.

Design

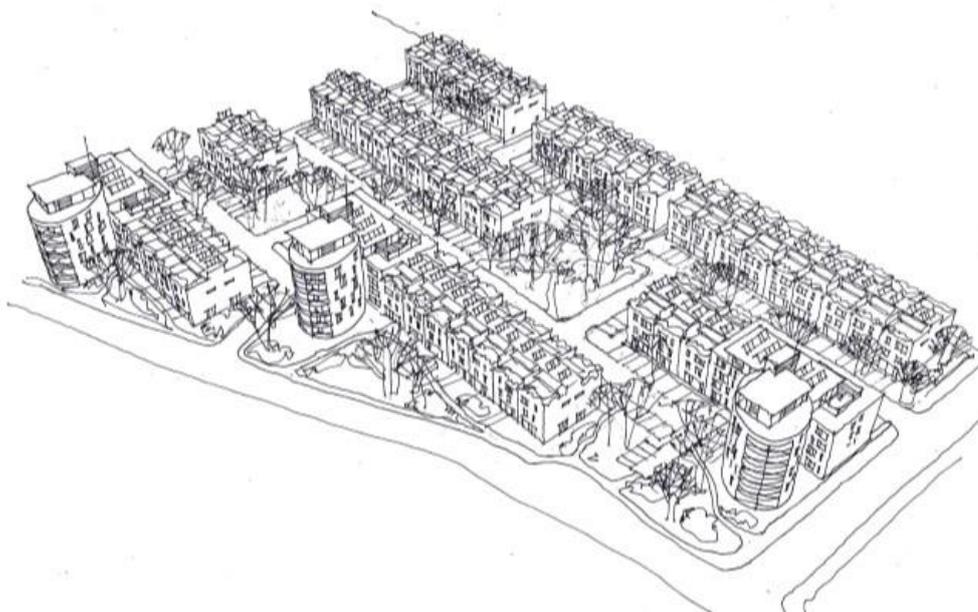
Architectural expression is similarly almost unlimited. The houses could be built of brick or timber-framed and clad, or rendered. Roofs could be pitched and tiled or slated. Windows could be of many types and sizes. Different terraces or streets could have different approaches, or indeed a more “picturesque” effect would be to vary the types house by house, all of them starting from the same basic layout.

Some house-types have parallel facades, while another model has an echelon arrangement. This canted wall means that the distance between frontages can be reduced, as overlooking distances can be measured on the diagonal, and the windows align more toward sunlight. The architecture would vary accordingly.



Layouts and networks

The houses could be grouped in terraces (running north-south so that facades garner either east or west sunlight) or in pavilions of four. There are many permutations. Large sites (in Milton Keynes, for example, or the Thames Gateway, or large brownfield locations) could be planned as networks of terraces. We show an "ideal" layout employing double terraces of 12 units, with communal landscaped squares at regular intervals. This would allow most units green views as well as opening up diagonal vistas. Overlooking distances are minimised by staggering the terraces so that habitable rooms are not directly opposite. In this pattern the road layouts could be organised as culs-de-sac, which would minimise passing traffic. Naturally, layouts would be tailored to "real" sites, taking account of givens, such as boundaries, topography, trees and views.



Back to back to back

Our suggestion is therefore that, with modern standards of design, construction and servicing, and with the impact of “green” thinking, a revisit to such a close-packed house-type might now more than ever be appropriate. It would consume less of our precious land, it would offer real economies in both construction and running and – with the right input – could yield some really, really nice houses to live in.

Karl Renner has worked with many of the major housing developers such as Berkeley, Linden, Barratt and London Square. He studied architecture at Manchester Polytechnic and worked at BDP, Feilden and Mawson, Chapman Taylor and Covell Matthews Wheatley, before forming Clarke Renner Architects (with David Clarke) in 1985. Since then he has worked on many projects but has concentrated on housing. Clarke Renner Architects were one of the winners of the Mount Pleasant design competition in 2017.

This article was first published in 2011 in *British Builder and Developer* magazine

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